



Land Warfare Conference 2012
“Air Power’s Role in Generating a Potent Land Force
- Chief of Air Force: Air Marshal Geoff Brown AO -
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(Check with delivery)

Minister Clare, fellow Chiefs, our overseas partners, men and women of the Australian Defence Force, ladies and gentlemen.

First of all let me also congratulate Chief of Army on once again organising an outstanding conference that will no doubt prove to be a landmark in Defence thinking. In particular I would like to congratulate his team for proposing such an appropriate and important theme for discussion this year.

A Potent Land Force for a Joint Maritime Strategy – surely this is a most pressing question for Army at present and one that is vital to the national security discourse.

Today I would like to take the opportunity to convey a few key messages regarding Australian air power’s role in generating and enabling a potent land force in our maritime context.

Potent land, sea and air forces are vital to securing Australia’s national interests and so this discussion is highly appropriate, timely and warranted and one I am sure will continue to drive informed conversation in this country. I want to discuss some of the drivers behind our maritime security strategy in order to better appreciate these linkages.

In that light I also will address some of the issues that influence the integration of air power with the land force so we can perhaps better understand how to make our ways more effective.

I want you to walk away from here with an appreciation of what air power does for the land force; in essence the means behind strategy.

I hope to address some of the questions on why the Air Combat fleet will be such a crucial element of Australia’s future air power. But more importantly I want you to walk away with an understanding of why the Air Combat fleet and the size of the fleet is so critical to the potency of your future land force.

Despite some of the rhetoric floating around, it is my fundamental belief that a potent land force is essential to the security of Australia.

We cannot afford to undermine the foundation of our national security by reducing the **resilience, flexibility or combat strength** of our land force if we are to meet future national security challenges.

In my opinion it is these three characteristics that determine land force potency; characteristics that are delivered by the capabilities resident in Army, but underpinned by air and sea power. We heard this morning that a maritime strategy is central to our national security interests.

Australia needs a strong Air Force, a robust Navy and indeed a potent land force if it is to succeed in its maritime strategy.

I argue there are three main drivers if this strategy is to succeed in meeting our national security interests.

Maritime strategy. The primary driver of a maritime strategy is a comprehensive national security strategy. A strategy that lays out our national security objectives and integrates the ways, ends and means of all the governmental organisations.

Defence's 2013 White Paper will build on white papers of the past to articulate the military's role in our national security, providing ways to achieve our national objectives within our means.

Balanced force. Secondly, the ADF needs a balanced force capable of responding to the broad range of conflicts as laid out in the White Paper. This force is not just about equipment, though this area seems to attract most attention due to project costs, but more so about the skillsets of our people.

A balanced force must be able to generate the effects required to cover the diverse range of operations Government expects us to perform. A position I have stated on numerous occasions is that a balanced military force is underpinned by the enduring roles of air power – more on that later.

Level of capability. Lastly, the ADF must maintain a level of capability able to execute the range of our core functions expected by government. Although this may sound simple, it is probably the most complex and demanding of all.

We are constantly faced with competing demands to provide capabilities able to meet designated preparedness requirements while maintaining our raise-train-sustain activities. Conceptualising Australian military strategy within a grand national maritime strategy is an appropriate and sensible approach.

Air, land and maritime forces are the irreducible minimum core components of our national security approach. The joint effects delivered by our forces in both peace

and conflict are shaped by the context of the situation and the approach directed by Government.

Force in a maritime strategy. Australia by any global measure is a tolerant society. Consequently, the application of force is only authorised when all other response options have been exhausted.

The ADF's maritime strategy is predicated on understanding and shaping the environment where our national interests lie, providing a deterrent against any that seek to act against Australia. Then, if necessary, we take action to deny or defeat any adversary that attacks or threatens Australia or its interests.

Maritime strategy. In regards to Australia's military maritime strategy, it is probably redundant of me to note that a maritime strategy is not synonymous with a naval strategy. Defence's maritime strategy, involves air, sea and land forces operating jointly to influence events in the littoral together with traditional blue water maritime concepts of sea denial and sea control.

The ADF contribution to our national maritime strategy is, and can only ever be, considered a joint contribution. This ought to be neither a startling nor a novel revelation. Joint maritime operations have enjoyed a sound heritage and an important place in Australian defence thinking most particularly since World War Two.

MacArthur's Island hopping campaign. I can think of no better example of a potent land force employed within a joint maritime strategy than General Douglas MacArthur's island hopping' campaign from New Guinea to the Philippines during World War Two.

The unique combat effects generated by each service were required to control the air, control the sea lines of communications and secure the islands required to achieve victory in the South-West Pacific.

Forward airfields enabled the projection of land-based airpower that provided the ISR, control of the air, strike and air mobility that history records were vital in enabling sea and land forces to conduct their operations.

Without land forces there would have been no forward bases, and without sea power there would have been no projection capability of the land force. Together the land, sea and air forces constituted a power far greater than the sum of their parts.

US Marines and Army worked side by side as elements of MacArthur's land forces, and there can be no argument that they truly embodied a potent land force; a force underpinned by the effects generated by air and naval effects.

No maritime strategy can achieve success without the use of each service's core warfighting capabilities. This has been true across our last 100 years, is true today, will continue to be so into the future.

This morning Chief of Army described his vision of a potent land force and Army's plan to transform throughout this decade.

Equally, Air Force is transforming to be able to respond to future challenges. We are changing the way we conduct our business, but not necessarily our fundamental roles.

I'd argue a potent land force is empowered by the capabilities air power provides. And it is the Royal Australian Air Force that delivers this air power for any joint response to a national security crisis.

So what role does air power have in generating a potent land force? I have long argued that we only do four things, and we have been doing these four fundamental things since World War I.

Enduring Roles of Air Power

Air mobility. Firstly, we move things through the air.

Manoeuvre is one of the fundamental principles of warfare making air mobility a cornerstone activity in virtually any military strategy. From the Nadzab to Timor to Afghanistan, the Royal Australian Air Force has a long history of rapidly moving a land force over long distances at very short notice. Air mobility lies at the heart of a land force's resilience and flexibility.

ISR. The second thing is to observe things from the air, our ISR capability.

The strategic, operational and tactical situational awareness developed from airborne surveillance is fundamental in the conduct of land operations. The more we see the better appreciation of the battlespace, thus the more potent a land force will be.

Many of those present today have been recipients of ISR delivered from our P-3s and Heron RPAs over Afghanistan, though you may not have been aware of it. In many ways that is how it should be. You need the right information, at the right time. Where it comes from is not important, but I would argue that in most fights, he with the best eyes wins.

Strike. Thirdly, we strike things on the land and sea, from the air.

The ability to attack prescribed targets with precision and lethality is a critical element of what Air Force brings to the Joint fight. Much of the resilience of a

potent land force is derived from its ability endure the combat power of an adversary.

Strike reduces the combat power an enemy can bring to bear against our land forces. Diminishing the enemy's combat power increases the relative combat strength of our land forces.

Whether the task is responding to troops in contact, attacking an enemy in his sanctuary or striking a supply convoy, effective and lethal combat air power is essential to the maintenance of combat power of a land force.

Control the air. Finally, the most fundamental thing we do is to control the air environment.

Control of the air enables all land, sea and air operations.

Remember the last time an Australian soldier was killed by enemy air was 1943 in New Guinea. The last RAN ship attacked by enemy air was HMAS Australia on 9 Jan 1945 off the Philippines.

We have lived under the umbrella of air control longer than our institutional memory, and this is a significant danger for us. Our adversaries have not and borne the cost in lives and equipment.

Even establishing control of the air against an adversary with a low level of air capability will require a large amount of air power, particularly when they hold the advantage of geography.

Air Land Integration. But for the effects air power can generate to mean anything to a land force we must be able to integrate our capabilities effectively.

It is worth clarifying that when I say air-land integration, I am really meaning air-surface integration because to accomplish the joint objective we need to work across all domains.

Now historically, many of our integration problems are not so much technical issues as they are people and process problems. We have seen this time and again in our planning, where each component has conducted their planning almost in isolation. Then, only towards the end of the process sought to coordinate or synchronise their effects.

Almost without exception, the biggest issue in air-land integration is the level of communication across the domains. The ability to convey commands, requests or situational awareness I'd argue is a cornerstone element of all successful operations.

However, forces across the different domains use their own unique languages, and even within each domain, specialist elements have a dialect of their own.

Air-land integration requires a greater degree of understanding each other's language. This does not mean we all must speak a common language but we must have a greater appreciation of each others.

Many of our integration issues are people and process driven. Therefore, it should be no surprise that I believe many of our solutions are found not in technology but in our approach to the joint fight.

Integration, be it air-land, land-sea or any other combination is a learned, exercised and practiced capability. Doctrine, technology, process and policy all play their part, but at heart I believe integration is about practicing together...until we get it right every time.

This way we are better prepared for the unexpected, because it is the unexpected conflicts we always seem to get involved in.

Simulation and experimentation clearly are the key factors to success in this enterprise and it is here that I would suggest we need to come together and get it right.

So to the future. I mentioned previously that the Air Force is transforming and that control of the air and strike underpins much of a potent land force's resilience, flexibility and combat power.

Much of this transformation revolves around the introduction of the Joint Strike Fighter.

Many of you have asked why the JSF and why 100.

The question why Air Force has been so hard over on getting the JSF has been raised by many of you time and again. Equally, why we have been stubborn about the number we require.

Good questions and ones that need good answers because both issues will directly influence the potency of our future land force.

The real question you need to answer is what is the impact to Army and its fielded forces if we do not get the JSF and importantly what is the risk to your combat power if we don't get 100?

Our current fleet of F/A-18s are rapidly reaching their end of service life. Their planned retirement by the end of this decade will see some of them more than 35 years old.

Thus, for more than a decade, DSTO scientists and Air Force subject matter experts have analysed the platform requirements that will best deliver the operational effects expected by government.

These operational effects include those generated by land and maritime forces which require the application of air power. The government-endorsed air combat scenarios, used in determining the most appropriate platform for Australia's needs, are joint-focused and in line with scenarios used for land and maritime planning.

So why the JSF? Our approach to high-end war fighting capabilities is to ensure we can achieve a level of lethality and survivability that exceeds those of past, present, and future potential adversaries.

While I cannot predict the future, one important lesson I take away from history is that the next conflict will not look like any of the previous ones.

Fighting the last war is a fatal mistake for any nation.

We need a combat system that delivers on our prime responsibility, that of control of the air, as well as the ability to conduct strike and some ISR elements across the entire spectrum of conflict. The JSF will be able to fight and win in the anti-access, area denial environment where most other fighters will struggle.

It brings to the fight a degree of networking that is a force multiplier for airborne forces, as well as for land and maritime elements. The JSF sensor suite will provide a radical real-time enhancement to the battlespace picture.

I am not going to bore you with a laundry list of the capabilities of the JSF, though for a fighter pilot I am surely tempted.

Just know from the amount of analysis conducted, and our involvement in the US JSF program, that the freedom from attack and freedom to attack you have enjoyed for the past 60 years is shaped to continue.

You may hear arguments that less capable aircraft may suffice, but these platforms place the potency of the land and maritime forces at a much higher degree of risk.

So if the JSF is the right platform, why do we need so many?

Round numbers always raise eyebrows so where did the number of 100 JSF come from. As I mentioned before, an incredible amount of work has gone into determining the fleet size, including much consultation with Army and Navy on their future operational requirements.

Of interest, the detailed analysis of JSF numbers actually identified slightly more than one hundred JSF would be required and so 'around 100' JSF is really a better description of the fleet size.

Of course, the final number will be decided by Government.

Determining the how many JSF will be required involved consideration of four distinct analysis elements:

1. The operational effects required of the fleet based on the planning scenarios,
2. The number of aircraft required to support training of pilots entering the air combat system
3. The number of aircraft likely to be in scheduled and unscheduled maintenance, and
4. The number of aircraft needed to support or preserve the operational capability over the life of the fleet.

Operational effects. DSTO identified how many fighters, pilots and supporting assets, such as Tankers and AEW&C would be required to satisfy each scenario's operational demands.

Particular emphasis was placed on determining the absolute minimum number of JSF and pilots required in each case. The operational scenarios placed concurrent demands for air combat effects, and in many cases these effects were required to be generated independently in separate geographic locations.

Tasks from the scenarios that influenced the number of JSF required include:

- close air support to troops in contact;
- protection of your Tigers, Black Hawks and MRH-90s from enemy air,
- strikes on enemy fielded forces or strategic targets;
- force protection of the Amphibious Task Force; and
- protection of points of vital interest such as your bases, supply depots and logistic convoys.

With a consolidated list of documented needs and an understanding of the number of fighters and pilots required to satisfy those needs, the ability of a JSF force of varying size to meet those needs was identified. Analysis of all the influences to support the scenarios determined the number of JSF to be available to fly to meet the range of operational effects.

Please understand that I cannot provide the exact breakdown of the fleet size in an unclassified forum but it is worth highlighting that like all military equipment not all the JSF will be available for operations.

Why do we need to buy aircraft that are not flying operationally?

Training. Like any military capability, training lies at the heart of generating combat power. Generating air power is no exception.

Training new pilots to enter the operational squadrons requires a training squadron with sufficient throughput capacity to sustain the required operational pilot population even during the conduct of operations. A large proportion of JSF pilot training at both the operational squadrons and the training squadron will be conducted in simulators, but pilots still need time in the jet to transfer skills from a virtual world to the real one.

Maintenance. While the JSF seeks new levels of supportability and reliability, it is a fact in aviation that aircraft break and must undergo both routine and unscheduled aircraft maintenance. Additional aircraft are needed on top of those required for operations and training to ensure that each squadron has the necessary aircraft available to execute their tasks.

Fleet life support. The remaining portion of JSF ensures that the air combat force can deliver the operational effect endorsed by Government over the period of operational service.

Aircraft lost to system failures and accidents such as bird strikes, as well as an appreciation of the airframe life must be factored into the analysis of the JSF fleet size. This will ensure we have an air combat force that meets our operational needs from early 2020 out to beyond 2040.

Conclusion

The size of the JSF force and the operational effect that it must achieve has been the subject of detailed analysis over many years.

'Around 100' JSF sounds like a lot of aircraft and it is understandable that the rationale behind this number is questioned.

In answering this question it is important to appreciate the importance of capacity to Australia's future security and I will turn to a real world experience as an example.

Iraq 2003. One of the key requirements of Operation Iraqi Freedom was Control of the Air and it is instructive to look at the Combat Air Patrol (CAP) missions set up for the campaign.

I was involved in the planning of the air operations and one of the foundations of the whole campaign was the CAPs that enabled the land forces to achieve their objectives, as well as the protection of the ISR assets and naval task elements.

It was determined that three Combat Air Patrols were required over Iraq, 24 hours per day, seven days a week.

Australia's contribution was 14 F/A-18 Hornets from 75 squadron. Our responsibility was to hold the eastern CAP for about 8 hours. To achieve this required 12 serviceable aircraft each day, a feat in it self from 14 available airframes, but remember this was only for one third of the 24-hour period and only one of three CAP positions.

To maintain control of the air across the three CAPs so that all other land and air operations could go ahead unhindered required 155 coalition fighter aircraft to be committed to the air campaign.

Control of the air is a numbers hungry operation, but it is the most important air power contribution to the joint campaign.

In closing it is worth noting that nearly every capability inherent in the air power contributes to the potency of the land force.

Air power will not make a land force potent, but without air power a land force will never be potent.

I am confident that the men and women of the Air Force, along our brothers and sisters in the Navy, are ready to respond to provide the effects necessary to ensure our land forces are potent whatever tasks the Government places before us.

Thank you